

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

Claims 1-28. (Cancelled).

29. (Currently Amended) A method of treating ore with microwave energy to facilitate subsequent processing of the ore, comprising the steps of:

- a) supplying the ore to a primary crusher and crushing the ore;
- b) discharging crushed ore particles from the primary crusher and feeding crushed ore particles with a major dimension of 15 cm or less to a microwave energy treatment station, having a microwave energy generator;
- c) exposing the ore particles while passing through the microwave energy treatment station to high energy pulses of microwave energy substantially above 1 kW with each pulse being less than 0.1 sec to produce micro-cracking ~~or other physical changes within the ore particles without catastrophic destruction of the ore particles or significant alteration to the mineralogy;~~ and
- d) thereafter feeding the microwave-exposed ore particles to a heap leach or a comminution station.

30. (Previously Presented) The method as defined in claim 29 wherein the crushed ore particles are supplied to the microwave energy treatment station on a conveyor and the microwave-exposed ore particles are taken away on a conveyor.

31. (Previously Presented) The method defined in claim 29 further including screening the crushed ore particles prior to exposing the ore particles to microwave energy in order to remove fines from the ore particles and to produce an output of microwave-exposed ore particles including a substantial proportion that has a particle size larger than 5 cm.

32. (Previously Presented) The method defined in claim 30 wherein the crushed ore particles are allowed to free fall while being exposed to the pulses from the microwave energy generator.

33. (Previously Presented) The method defined in claim 31 wherein the ore is an ore in which the valuable components are metals and the metals are present as a sulphide.

34. (Previously Presented) The method defined in claim 33 wherein the ore is a copper-containing ore in which the copper is present as a sulphide, such as chalcopyrite or chalcocite.

35. (Currently Amended) A method of treating ore with microwave energy to facilitate subsequent processing of the ore, comprising the steps of:

- a) supplying the ore to a primary crusher and crushing the ore;
- b) discharging crushed ore particles from the primary crusher and feeding crushed ore particles with a major dimension of 15 cm or less to a microwave energy treatment station, having a microwave energy generator;
- c) exposing the ore particles while passing through the microwave energy treatment station to high energy pulses of microwave energy substantially above 1 kW with each pulse being less than 0.001 sec to produce micro-cracking ~~or other physical changes~~ within the ore particles without catastrophic destruction of the ore particles ~~or significant alteration to the mineralogy~~; and
- d) thereafter feeding the microwave-exposed ore particles to a heap leach or a comminution station.

36. (Previously Presented) The method as defined in claim 35 wherein the crushed ore particles are supplied to the microwave energy treatment station on a conveyor and the microwave-exposed ore particles are taken away on a conveyor.

37. (Previously Presented) The method defined in claim 35 further including screening the crushed ore particles prior to exposing the ore particles to microwave energy in order to remove fines from the ore particles and to produce an output of microwave-exposed ore particles including a substantial proportion that has a particle size larger than 5 cm.

38. (Previously Presented) The method defined in claim 36 wherein the crushed ore particles are allowed to free fall while being exposed to the pulses from the microwave energy generator.

39. (Previously Presented) The method defined in claim 37 wherein the ore is an ore in which the valuable components are metals and the metals are present as a sulphide.

40. (Previously Presented) The method defined in claim 39 wherein the ore is a copper-containing ore in which the copper is present as a sulphide, such as chalcopyrite or chalcocite.

41. (Currently Amended) A method of treating ore particles of 15 cm or less with microwave energy to facilitate subsequent processing of the ore in which the ore particles are exposed, while passing through a microwave energy treatment station, to high energy pulses of microwave energy substantially above 1 kW with each pulse being less than 0.001 sec to produce micro-cracking ~~or other physical changes~~ within the ore particles without catastrophic destruction of the ore particles ~~or significant alteration to the mineralogy~~.

42. (Previously Presented) The method defined in claim 41 wherein an output of microwave-exposed ore particles includes a substantial proportion that has a particle size larger than 5 cm.